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10/522,861	01/31/2005	Willmut Zschunke	ZSHUNKE ET AL 2 PCT	4874

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1.　　Acknowledgement is made of amendment file 11/13/08.

Correction of Examiner's Amendment to the Specification

2.　　The application has been amended as follows:

In the Specification:

On Page 1, after the paragraph "CROSS REFERENCE TO RELATED APPLICATIONS" added by the Preliminary Amendment filed January 31, 2005, add the following paragraphs:

BACKGROUND OF THE INVENTION

1. Field of the Invention

On Page 1, after the first paragraph, add the following heading:

2. Description of the Related Art

On Page 3, before the last paragraph, add the following heading:

SUMMARY OF THE INVENTION

On Page 4, after the second paragraph, add the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

On Page 4, after the third paragraph, add the following heading:

FIG. 1 shows the orthogonal shapes known from the IEEE reference mentioned initially;

FIG. 2 shows the basic band model of a Q^2PSK transmitter and receiver as it can be derived from FIG. 13 of the IEEE reference using the example of a transmission and

reception branch for an orthogonal carrier;

FIG. 3 shows the examples that are evident from the IEEE reference, FIG. 14,
mentioned initially;

FIGS. 3a, 3b and 3c show the pulse responses to the examples of filter pairs a,
b, c in FIG. 3;

FIG. 4 shows a QPSK having an ideal low-pass channel H_i having the band width
ω_g in which the signal progressions of the filters and the individual design steps are
indicated;

FIG. 5 shows a Nyquist flank of $\mathbf{H_i}$, in which the conditions for avoiding cross-talk
between the PSK signals are indicated, applied at ω_g in the case of $\boldsymbol{P_{2m}} = \boldsymbol{P_2P_2}^*$;

FIG. 6 shows possibilities of a method implementation of the filtering of the
signals $\boldsymbol{P_1}$ and $\boldsymbol{P_2}$ without cross-talk and the transition to a multi-carrier system;

FIG. 7 shows a cosine crest channel $\boldsymbol{H_c}(\omega)$ that supplies a corresponding pulse
response;

FIG. 8 shows a $\boldsymbol{Q^nPSK}$ transmission with partial response;

FIG. 9 shows a partial response system with individual filters;

FIG. 10 shows the implementation of $\boldsymbol{P_2}$ by means of modulation and reception-
side demodulation of $\boldsymbol{P_2}$ and transition to $\boldsymbol{Q^nPSK}$ in the upper part, how $\boldsymbol{P_2}$ is
demodulated in the low-pass range in the center part, and the root Nyquist filter on the
reception side combined with the reception filter in the lower part;

FIG. 11 shows schematically for three channels the principle of dividing the
transmission channel H_i up into two channels expanded to several frequency ranges,

with the Nyquist flanks at the separation points left out;

FIG. 12 shows the transition to $Q^n PSK$ and the overall spectrum $H_g(\omega)$, with the purely imaginary spectra shown with broken lines;

FIG. 13 shows a Variant A in which IKQÜS occurs from the overlapping on the remaining side band flank (RSB flank);

FIG. 14 shows an advantageous arrangement of channels in the case of multi-channel transmission;

FIG. 15 shows the duobinary multi-channel transmission using the example of a transmission spectrum $S(\omega)$ for Variant A and Variant B;

FIG. 16 shows the implementation of the transmitter-side RSB filtering, in which the RSB filter which is shifted into the basic band is broken down into the even and odd portion $H_g(j\omega)$ and $H_u(j\omega)$; and

FIG. 17 shows an addition of flanks $H(\omega)$.

<u>DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS</u>

Conclusion

2.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611
November 24, 2008

/Shuwang Liu/ Supervisory Patent Examiner, Art Unit 2611